



## Global climate change and sustainable energy development: Focus on emerging issues and strategies for the Asia-Pacific region

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### Abstract:

Global warming and greenhouse effects are a direct consequence of climate change, triggered mainly by emissions of greenhouse gases (GHGs). Various national and international agencies are actively involved through carefully drawn program initiatives to progressively reduce GHG emissions. Clean development mechanisms (CDMs), emissions trading, and the emerging carbon market, aiming at carbon neutrality in phases, are among some of the major initiatives at both national and regional levels that are seemingly gaining momentum in an effort to comply with Kyoto Protocol commitments over time. International Financial Institutions (IFCCCs), e.g., The World Bank, ADB, etc. have played a pivotal role in proactively helping to reduce emissions at the sector, project, national, and regional levels. National and international policy support towards sustainable energy development in a mission mode is suggested in this article as a pragmatic approach to bringing a reversal of climate change processes (while ensuring energy security and health/environmental safety) through progressive reduction of emissions. The emerging issues and corresponding strategic policies related to the larger question of energy security in the wake of global climate change for the Asia-Pacific region in particular are presented. A sustainable energy development approach and initiatives are discussed at some length in the article. The accumulated knowledge on the science of global climate change, visible evidences, and advances in research findings on the adverse impacts of these changes (on ecology, human and animal life, energy, and the economy) necessitate proper review and documentation of these events. Such documentation will serve as a guide for our future options, alternative strategies, and long-term policies that must evolve to address the declining trend of climate quality to save the planet from further devastation in the future. A global review of the scientific literature on the subject, with careful scrutiny and analysis, also calls for a deeper awareness, appreciation, and understanding of the inter-relationship between reversing the processes of climate change and simultaneously building the concept of a new paradigm of sustainable energy development. This article seeks to harmonize these two apparently conflicting approaches. The article, among other things, seeks to cover wide-ranging arenas and emerging interconnected issues, such as the scientific reasons for global climate change, the magnitude of change, the impact of change, emissions trading, and CDM initiatives (to achieve carbon neutrality, energy security, etc.) that may lead to evolving the concept of sustainable energy development in a systemic gestalt. The article also addresses illustrative policy and program measures to abate and mitigate climate change by reduction of greenhouse gas emissions, proactive roles of international funding and cooperation among agencies to supplement regional and domestic efforts, and exploration of the implicit and coherent nexus between climate and energy security. It explores the specific nature of emerging problems that get in the way of abating climate change and seeks to find a solution through integrated and holistic approaches to the extent feasible with global initiatives and maximum inter-regional cooperation.

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## Resource Description

### Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Security, Food/Water Security, Sea Level Rise, Temperature, Unspecified Exposure

**Extreme Weather Event:** Hurricanes/Cyclones, Landslides

**Food/Water Security:** Food Access/Distribution

**Temperature:** Fluctuations

### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

### Geographic Location:

resource focuses on specific location

Non-United States

**Non-United States:** Asia

**Asian Region/Country:** Other Asian Region

**Other Asian Region:** Asia-Pacific

### Health Co-Benefit/Co-Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

### Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease, Morbidity/Mortality

**Infectious Disease:** Vectorborne Disease

**Vectorborne Disease:** General Vectorborne

### Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Mitigation

### Model/Methodology:

## Climate Change and Human Health Literature Portal

type of model used or methodology development is a focus of resource

Exposure Change Prediction

### Resource Type: ☒

format or standard characteristic of resource

Policy/Opinion, Review

### Timescale: ☒

time period studied

Long-Term (>50 years)